AI ASSISTED CODE

EXAM -1

HT NO:2403A5177

BATCH NO:12

1).create a python function that converts an amount from one currency to another using exchange rates stored in a dictionary .Use Github copilot along with vs code.Use few short prompting

#Input1: {'USD': 1, 'EUR': 0.9, 'INR': 75}.

#Output: converted amount.

#Input2: {'USD': 2 'EUR': 1.8, 'INR': 150}.

#Output2: converted amount

#Write a Python function that converts an amount from one currency to another

CODE:

```python
def convert_currency(amount, from_currency, to_currency, exchange_rates):
    if from_currency not in exchange_rates or to_currency not in exchange_rates:
        raise ValueError("Currency not supported.")

    # Convert amount to USD first
    amount_in_usd = amount / exchange_rates[from_currency]
```

```python
    # Convert USD to target currency#Input1: {'USD': 1, 'EUR': 0.9, 'INR': 75}.

#Output: converted amount.

#Input2: {'USD': 2 'EUR': 1.8, 'INR': 150}.

#Output2: converted amount

#Write a Python function that converts an amount from one currency to another.

def convert_currency(amount, from_currency, to_currency, exchange_rates):

    if from_currency not in exchange_rates or to_currency not in exchange_rates:

        raise ValueError("Currency not supported.")


    # Convert amount to USD first

    amount_in_usd = amount / exchange_rates[from_currency]


    # Convert USD to target currency

    converted_amount = amount_in_usd * exchange_rates[to_currency]


    return converted_amount

    converted_amount = amount_in_usd * exchange_rates[to_currency]


    return converted_amount
```

```python
#Example usage:

exchange_rates1 = {'USD': 1, 'EUR': 0.9, 'INR': 75}

amount1 = 100

from_currency1 = 'EUR'

to_currency1 = 'INR'

converted_amount1 = convert_currency(amount1, from_currency1,
to_currency1, exchange_rates1)

print(f"{amount1} {from_currency1} is equal to
{converted_amount1:.2f} {to_currency1}")

exchange_rates2 = {'USD': 2, 'EUR': 1.8, 'INR': 150}

amount2 = 200

from_currency2 = 'EUR'

to_currency2 = 'INR'

converted_amount2 = convert_currency(amount2, from_currency2,
to_currency2, exchange_rates2)

print(f"{amount2} {from_currency2} is equal to
{converted_amount2:.2f} {to_currency2}")
```

100 EUR is equal to 8333.33 INR

200 EUR is equal to 16666.67 INR

**2)Write a python program to extract all email address from a block
of test using regular expressions.Github copilot along with vs code
.use zero short prompting.**

Write a Python program to extract all email addresses from a block
of text using regular expressions.

```python
def extract_emails(text):
    # Regular expression pattern for matching email addresses
    email_pattern = r'[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}'
    # Find all email addresses in the text
    emails = re.findall(email_pattern, text)
    return emails

if __name__ == "__main__":
    sample_text = """
    Hello, please contact us at support@example.com for further information.
    You can also reach out to john.doe123@gmail.com or jane-doe@my-company.co.uk.
    Don't forget our backup: info@domain.io."""
    extracted_emails = extract_emails(sample_text)
    print("Extracted email addresses:")
    for email in extracted_emails:
        print(email)
```

Extracted email addresses:

support@example.com

john.doe123@gmail.com

jane-doe@my-company.co.uk

info@domain.io

3)**Given a list of movies with genres ,write a python function that recommends movies based on user's preferred genre.Use the cursor AI tool.Use few shot prompting.**

<mark>PROMPT:</mark>

#input1=bahhubali

#output1=action

#input2=Hi nanna

#output2=emotional

#generate a code of a function that takes a movie name as input and returns its genre as output.

<mark>CODE:</mark>

```python
def get_movie_genre(movie_name):
    movie_genres = {
        "bahhubali": "action",
        "Hi nanna": "emotional",
        "Inception": "sci-fi",
        "The Dark Knight": "action",
    }
    return movie_genres.get(movie_name, "unknown genre")
def main():
    movie1 = "bahhubali"
    movie2 = "Hi nanna"
    print(f"The genre of '{movie1}' is: {get_movie_genre(movie1)}")
```

```python
    print(f"The genre of '{movie2}' is: {get_movie_genre(movie2)}")
if __name__ == "__main__":
    main()
```

The genre of 'bahhubali' is: action

The genre of 'Hi nanna' is: emotional

4)**Write a python code that reads a CSV file containing student names and marks in 3 subjects.Calculate the total and average marks for each student.Use cursor AI tool.**

Reads a CSV file containing student names and marks in 3 subjects

Calculates the total and average marks for each student prints the result

```python
import csv


with open('students.csv', newline='') as csvfile:
    reader = csv.DictReader(csvfile)
    for row in reader:
        name = row['Name']
        marks = [int(row['Math']), int(row['Science']), int(row['English'])]
        total = sum(marks)
        average = total / len(marks)
        print(f"{name}: Total = {total}, Average = {average:.2f}")
```

#sample example

Name,Math,Science,English

Alice,85,90,88

Bob,78,82,80

Charlie,92,88,95

OUTPUT:

Alice: Total = 263, Average = 87.67

Bob: Total = 240, Average = 80.00

Charlie: Total = 275, Average = 91.67